

Partial Sequence of the Crystal Protein Gene

AAGTGGATTTTATATATAAGTATAAAAAGTAATAAGACTTTAAAAATAAGTTAACGGAATACAAACCTTAATGCATTGGTTAAACATTGTAAAGTCTAAA
 100
 CCATCCATAATGGGCGAGAAAGTAAGTAGATTGTTAACACCTCGCTCAAAAATTGATATTTAGTAAATTTAGTGGACCTTGTGTCATTTTTGTATAGAT
 200
 GAGTCATATGTTTTAAATTGTAGTAATCAAAAACAGTATTATATCATGAATGGTATCTTAATAAAGAGATGGAGGTAACTTATGGATAACAATCC
 300
 MetAspAsnAsnPro
 GAACATCAATGAATGCATTCTTATAATTGTTTAAAGTAACCTGAAGTAGAAGTATTAGTGGAGAAAGATAGAAACTGGTTACACCCCAATCGATATT
 400
 oAsnIleAsnGluCysIleProTyrAsnCysLeuSerAsnProGluValGluValLeuGlyGlyGluArgIleGluThrGlyTyrThrProIleAspIle
 TCCGTGCGCTAACGCAATTTCTTTTACGTGAATTTGTTCCGGTCTGGATTGCTGTAGGACTAGTTGATATAATATGGGCAATTTTGGTCCCTCTC
 500
 SerLeuSerLeuThrGlnPheLeuLeuSerGluPheValProGlyAlaGlyPheValLeuGlyLeuValAspIleIleTrpGlyIlePheGlyProSerG
 AATGGGAGCGCATTTCTTTGACAAATTGAACAGTTAATTAACCAAGATACAAAGATTCGGTAGGAACCAAGCCATTTCTAGATTAGAACGCAAGCAA
 600
 InTrpAspAlaPheLeuValGlnIleGluGlnLeuIleAsnGlnArgIleGluGluPheAlaArgAsnGlnAlaIleSerArgLeuGluGlyLeuSerAs
 TCTTTATCAAAATTACGCAAGTCTTTTAGAGAGTGGCAAGCAGATCTACTAATCCAGCATTAAGAGAGAGATCGGTATCAATTCAATGACATGAAC
 700
 nLeuTyrGlnIleTyrAlaGluSerPheArgGluTrpGluAlaAspProThrAsnProAlaLeuArgGluGluMetArgIleGlnPheAsnAspPheAsn
 AGTGCCTTACAACCGCATTTCTCTTTTGCAGTTCAAAATTATCAAGTCTCTTTTATCAGTATATGTTCAAGCTGCAAAATTTACATTTATCAGTTT
 800
 SerAlaLeuThrThrAlaIleProLeuPheAlaValGlnAsnTyrGlnValProLeuLeuSerValTyrValGlnAlaAlaAsnLeuHisLeuSerVal
 TGAGAGATGTTTCAGTGTTCGACAAAGGTGGGCTTTGATGCCGGCTAGCAATAGTGGTTATAATGATTAACTAGGCTTATTGGCACTATACAGA
 900
 euArgAspValSerValPheGlyGlnArgTrpGlyPheAspAlaAlaThrSerAsnSerArgTyrAsnAspLeuThrArgLeuIleGlyAsnTyrThrAs
 TTATGCTGTACGCTGGTACAATACGGCATTAACAAGCTGTATGGGACCGGATTCTAGACATTGGGTAAAGTATAATCAATTTAGAAGAGAAATTAACACTA
 1000
 oTyrAlaValArgTrpTyrAsnThrGlyLeuGluArgValTrpGlyProAspSerArgAspTrpValArgTyrAsnGlnPheArgArgGluLeuThrLeu
 ACTGTATTAGATATCGTTGCTGTGTTCCGAATTTATGATAGTAGAAGATATCCAATTCGAACAGTTTCCCAATTAACAAGAGAAATTTATACAAACCCAG
 1100
 ThrValLeuAspIleValAlaLeuPheProAsnTyrAspSerArgArgTyrProIleArgThrValSerGlnLeuThrArgGluIleTyrThrAsnProV
 TATTAGAAAAATTTGATCGTAGTTTTCGAGGCTCGGCTCAGGCGATACAAAGAGTATTAGGAGTTTACATTTTGTATGATATACCTTAACAGTATAACCAT
 1200
 AlLeuGluAsnPheAspGlySerPheArgGlySerAlaGlnGlyIleGluArgSerIleArgSerSerHisLeuMetAspIleLeuAsnSerIleThrI
 CTATACGGATGCTCATAGCGGTTATTATTTGTTGGTACGGGATCAATAATGCTTCTCTGTAGGGTTTTCGGGGCCAGAAATTCACCTTTTCGGCTATAT
 1300
 eTyrThrAspAlaHisArgGlyTyrTyrTyrTrpSerGlyHisGlnIleMetAlaSerProValGlyPheSerGlyProGluPheThrPheProLeuTyr
 GGAACATTCGGAAATGCGAGCTCCACAACAGCTATTGTTGCTCAACTAGGTACGGGCGGTATAGAACATTATCGTCCACTTTATATAGAACACCTTTTA
 1400
 GlyThrMetGlyAsnAlaAlaProGlnGlnArgIleValAlaGlnLeuGlyGlnGlyValTyrArgThrLeuSerSerThrLeuTyrArgArgProPheA
 ATATAGGGATAAATAATCAACAATATCTCTCTTTCAGCGGACAGAAATTTGCTTATGGAACCTCCTCAAAATTTGCCATCGGCTGTATACAGAAAAAGCGG
 1500
 snIleGlyIleAsnAsnGlnGlnLeuSerValLeuAspGlyThrGluPheAlaTyrGlyThrSerSerAsnLeuProSerAlaValTyrArgLysSerG

FIG. 1 - 1

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AACGGTAGATTCCTGGATCAATACCGCCACAGATAAACACCTGCCACCTAGCCAGGATTAGTCATGATTAGCCATGTTTCAATGTTTCCTCA 1600
 yThrValAspSerLeuAspGluValProProGlnAsnAsnValProProArgGlnGlyPheSerHisArgLeuSerHisValSerMetPheArgSer
 CCCTTAGTAATAGTAGCTAGTAAGTATAAAGAGCTCCTATGTTCTCTGGATACATCGTACTGCTGAATTTAATAATAAATGATCCGATAGTATTA 1700
 GlyPheSerAsnSerSerValSerIleIleArgAlaProMetPheSerTrpIleHisArgSerAlaGluPheAsnAsnIleIleAlaSerAspSerIleI
 CTCAAATCCCTGCAGTCAAGCCAACTTCTTTTAAAGTTCTGTAAATTCAGCACCAGGATTACTGCTGGGCACTTAGTTAGATTAAATAGTAGTGG 1800
 hrGlnIleProAlaValLysGlyAsnPheLeuPheAsnGlySerValIleSerGlyProGlyPheThrGlyGlyAspLeuValArgLeuAsnSerSerG
 AAATAACATTACAAATAGAGGTATATTGAAGTCCAAATTCACCTCCCATCCACATCTACCAGATATCGAGTTCTGTACGGTATGCTTCTGTAAACCCG 1900
 yAsnAsnIleGlnAsnArgGlyTyrIleGluValProIleHisPheProSerThrSerThrArgTyrArgValArgValArgTyrAlaSerValThrPro
 ATTCAACCTCAACCTTAATTCGGTAAATTCATCCATTTTTCCAATACAGTACCAGCTACAGCTACGTCATTAGATATATCAATCAAGTCAATTCGTT 2000
 IleHisLeuAsnValAsnTrpGlyAsnSerSerIlePheSerAsnThrValProAlaThrAlaThrSerLeuAspAsnLeuGlnSerSerAspPheGlyT
 ATTTTCAAGTCCCAATCCTTTACATCTTCATTAGCTAATATAGTAGCTGTAGAAATTTTAGTGGCACTCCAGGAGTATAATAGCAGATTGCAATT 2100
 yPheGluSerAlaAsnAlaPheThrSerSerLeuGlyAsnIleValGlyValArgAsnPheSerGlyThrAlaGlyValIleIleAspArgPheGluPh
 TATTCAGTACTCCAACTCCAGGCTGAATATAATTCGAAAGAGCGCAGAGCGGCGTGAATGCGCTGTTTACGCTCAAAACCACTAGCGCTAAAA 2200
 eIleProValThrAlaThrLeuGluValGluTyrAsnLeuGluArgAlaGlnLysAlaValAsnAlaLeuPheThrSerThrAsnGlnLeuGlyLeuLys
 ACAATGTACCGGATTATCATATTGATCAAGTGTCCAAATTTAGTTACGATTTTATCGGATGAATTTTGTCTGGATGAAAAGCGAGAAATTCCTCCAGAAAG 2300
 ThrAsnValThrAspTyrHisIleAspGlnValSerAsnLeuValThrTyrLeuSerAspGluPheCysLeuAspGluLysArgGluLeuSerGluLysV
 TCAACATGCGCAAGGCACTCAGTCATCAAGCGAATTTACTCCAGATTCAAAATTTCAAAGACATTAATAGGCAACCAAGCTGGCTGGCGCCAGATAC 2400
 allyHisAlaLysAlaLeuSerAspGluArgAsnLeuLeuGlnAspSerAsnPheLysAspIleAsnArgGlnProGluArgGlyTrpGlyGlySerTh
 AGGATTAACATCCAAAGCGGGATGACGTATTTAAACAAAATTACGTCACACTATCAGGTACCTTTGATGAGTGCATCCAAATATTTGTATCAAAA 2500
 rGlyIleThrIleGlnGlyGlyAspValPheLysGluAsnTyrValThrLeuSerGlyThrPheAspGluCysTyrProThrTyrLeuTyrGlnLys
 ATCGATCAATCAAAATTAAGCCCTTACCGGTATCAATTACAGGCTATATCAAGATAGTCAAGACTTAGAAATCTATTAAATTCGGTACAAATGCAA 2600
 IleAspGluSerLysLeuLysAlaPheThrArgTyrGlnLeuArgGlyTyrIleGluAspSerGlnAspLeuGluIleTyrLeuIleArgTyrAsnAla
 AACATCAAAACAGTAAATGTCCAGGTACGGGTTCTTATGGCGGCTTCAGCCCAAAGTCCAAATCGGAAAGTGTGGAGAGCCCAATCGATCCCGCCACA 2700
 yHisGluThrValAsnValProGlyThrGlySerLeuTrpProLeuSerAlaGlnSerProIleGlyLysCysGlyGluProAsnArgCysAlaProH
 CCTTGAATGCAATCCTGACTTAGATTGTTCTGTAGGATGGAGAAAAGTGTGCCCATCTTCGATCATTTCCTCTAGACATTGATAGCATGTACA 2800
 sLeuGluTrpAsnProAspLeuAspCysSerCysArgAspGlyGluLysCysAlaHisHisSerHisHisPheSerLeuAspIleAspValGlyCysThr
 GACTTAAATCAGGACCTAGCTGTATGGGTGATCTTTAAGATTAAAGACGCAAGATGGCCAGCAAGACTAGCCAAATCTAGAGTTTCTCGAAGCAAAACAT 2900
 AspLeuAsnGluAspLeuGlyValTrpValIlePheLysIleLysThrGlnAspGlyHisAlaArgLeuGlyAsnLeuGluPheLeuGluGluLysProL
 TAGTAGGAGAGGCTAGCTCCTGTGAAAAGAGCGGAGAAAAATGCGAGACAAAGCTGAAAAATTCGAAATGCGAAACAAATATGCTTTATAAACAGCC 3000
 euValGlyGluAlaLeuAlaArgValLysArgAlaGluLysLysTrpArgAspLysArgGluLysLeuGluTrpGluThrAsnIleValTyrLysGluAl
 AAAAGAACTCTGATGCTTTATTTGTAAGCTCTCAATATGATCAATTACAAGCGGATACGAATATGCCATGATTTCATGCGGCAGATAAAGCTGTTCA 3100
 sLysGluSerValAspAlaLeuPheValAsnSerGlnTyrAspGlnLeuGlnAlaAspThrAsnIleAlaMetIleHisAlaAlaAspLysArgValHis
 ACCATTCCGCAAGCTT
 SerIleArgGluAlaIle

3116

FIG. 1 - 2

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Map of pTi15955 T-DNA

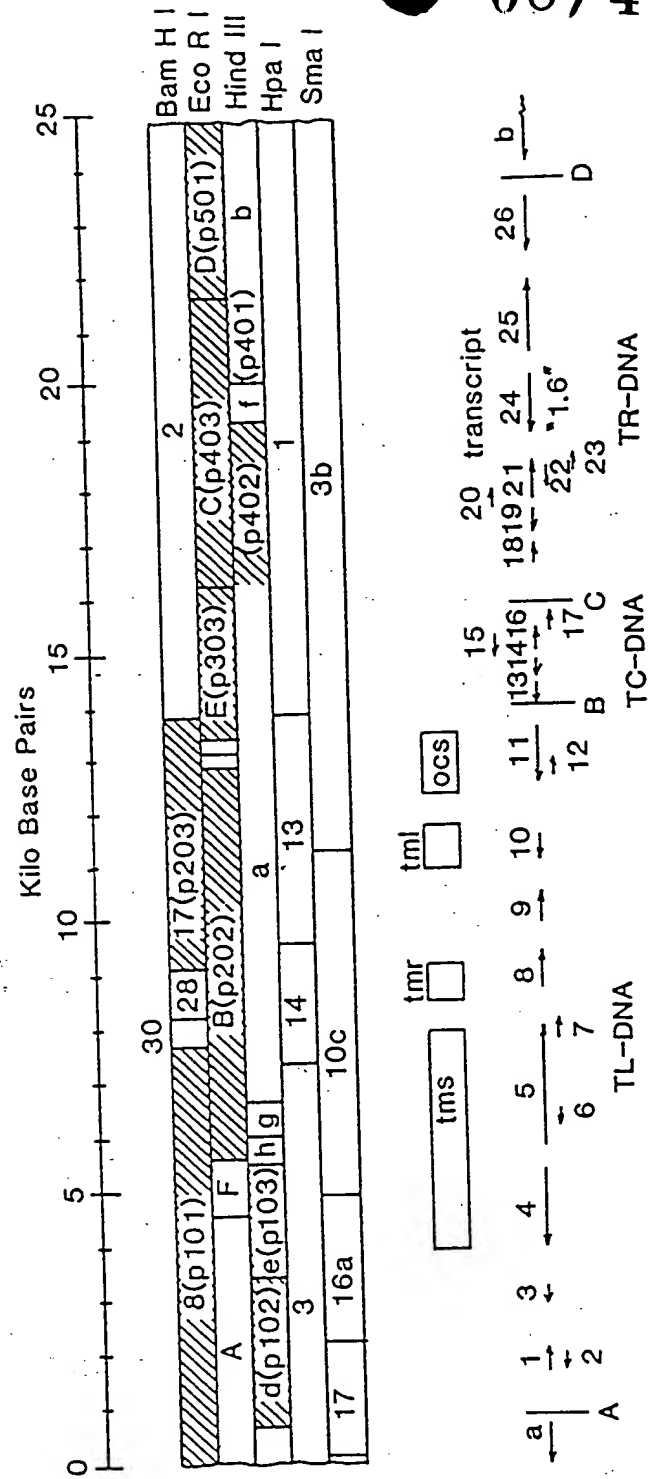


FIG. 2

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R = Eco R I
 C = Cla I
 H = Hind III
 B = Bam H I

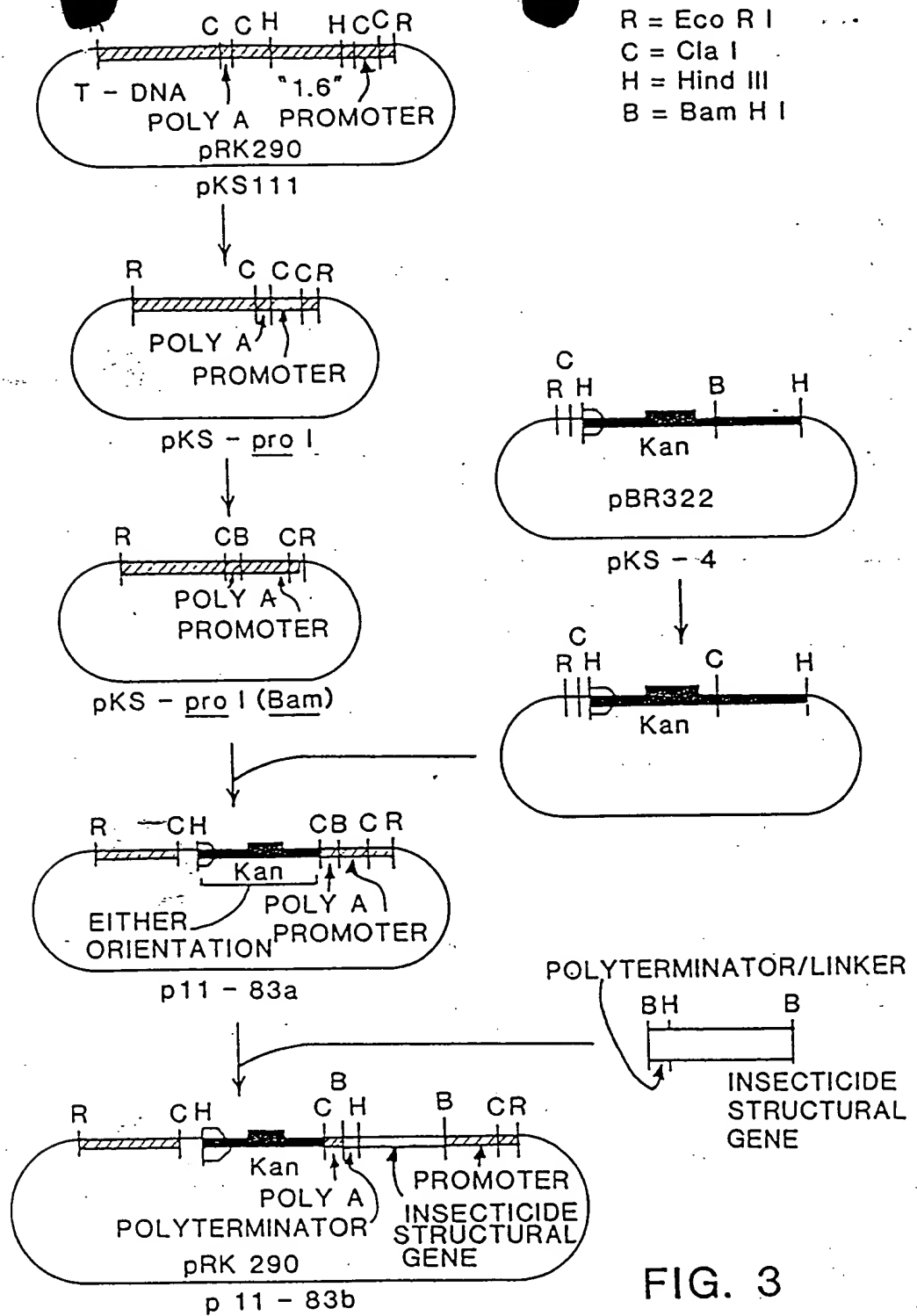


FIG. 3